

ABSTRACT OF THE DISCLOSURE

A lamp including a reflective portion is utilized in a fluid purification system to maximize the light delivery to a photocatalytic coating that oxidizes gaseous contaminants that adsorb onto the surface to form carbon dioxide, water, and other substances. An ultraviolet light source positioned proximate to the honeycomb activates the titanium dioxide coating. In one example, the reflective portion is a reflective coating. Light directed out of the non-reflective portion of the lamp travels towards the honeycomb and absorbs onto the photocatalytic coating. Light directed towards the reflective portion on the lamp is reflected off the surface of the reflective portion and passes through the non-reflective portion of the lamp to also absorb onto the photocatalytic coating. The reflective portion reflects light towards the honeycomb that would otherwise be misdirected away from the honeycomb, increasing efficiency of the fluid purification system.

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